DIFFERENT PHENOTYPES OF MICROVASCULAR ENDOTHELIAL CELLS SHOW DIVERSE PROLIFERATION: INFLUENCE OF IFN-γ IN CULTURE

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Interferon-γ has been reported either to stimulate or to inhibit endothelial cell proliferation (Saegusa et al. 1990; Stolpen et al. 1986). Therefore, four different phenotypes of MVEC (MVEC types 1,3,4 and 5) derived from bovine corpus luteum and cultured successfully in our laboratory (Spanel-Borowski 1991; Spanel-Borowski and van der Bosch 1990) were studied in respect to cell proliferation without or under the influence of IFN-γ, 5000 cells of each MVEC type were plated into a well of 24-well-culture plates on day zero. 24 h later 200 or 100 U bovine recombinant IFN-γ/well were applicated once. Cells were harvested every 3rd day, and cell number was determined by using a Coulter Counter. Without IFN-γ, proliferation was high for MVEC types 3 and 4, moderate for MVEC type 1 and low for MVEC type 5. Interferon-γ inhibited proliferation of MVEC types 1, 3 and 4 in a dose-independent manner. To some extent, the anti-proliferative effect of IFN-γ on MVEC type 1 seemed to be due to striking cell flattening and early confluence of the monolayer. The anti-proliferative effect on MVEC types 3 and 4, however, resulted in the late appearance of subconfluent cultures in some cases apparently caused by cytotoxicity. Interferon-γ did not impair proliferation of MVEC type 5. Thus, IFN-γ appears to act differently on different MVEC phenotypes.

Source: https://www.industrydocuments.ucsf.edu/docs/ysmv0000